

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the matter of

Requirements for Digital Television
Receiving Capability

ET Docket No. 05-24

COMMENTS OF CHRIS LLANA

I am grateful for the opportunity to submit comments on the FCC's Further Notice of Proposed Rulemaking concerning digital tuners in TV sets smaller than 25". I do so as an independent consumer and long-time observer of the development and evolution of high-definition television in the United States. I maintain a web site for the purpose of educating consumers on HDTV and the transition to the ATSC television standard—www.dtvprimer.com.

At the outset, I would like to make clear that I do not believe that digital TV is a "burden" on consumers, or that the transition to the ATSC television standard amounts to a government "taking" of consumers' property, as at least one professional consumer advocate has suggested. On the contrary, I believe that adoption of the ATSC standard confers a great benefit on the American public.

The time was right. The 50-year-old NTSC color TV standard would not have survived the digital revolution in any case. The weight of technical progress was not to be stopped—resistance would have been futile.

Everyone I've talked to has reacted positively to the new technology. Most did not run out and buy a new HD set, but none of them will ever buy another NTSC TV. For those who have not yet bought an ATSC set, it is just a

matter of timing and budget planning. All of them are planning to buy a new HDTV before the end of the transition; in the meantime they will simply keep using their current analog sets.

Broadcasters appear to be doing pretty much the same thing—working out the timing within the constraints of regulatory schedules and budget. A great deal of gorgeous high-definition programming is being produced by the networks. It's still not reaching a lot of people, even those who own HD sets, but this will change for the better with time.

The consumer electronics industry has taken advantage of the new digital TV standard to develop remarkable new television sets. We see significant improvements in these technologies every year, even as prices fall. Even more promising designs will appear on retailers' shelves in the months and years ahead.

The only ones who are disadvantaged by the transition today are the people who are unaware of it. In this instance, what you don't know absolutely *will* hurt you. You can't plan for something if you don't know it exists.

The transition is now marching along on a predictable timetable, but if you unwittingly buy an NTSC-only TV, that set is not going to march with you.

In this proceeding, the FCC requests comments specifically on:

- suggestions for a date *no later than* December 31, 2006, for requiring all new television receivers to include DTV reception capability;
- whether the requirement to include a DTV tuner in new receivers should be extended to receivers with screen sizes less than 13"; and
- suggestions for alternative approaches for including DTV reception capability in all TV receiving devices on a schedule.

I. Choosing a Date

The best date for prohibiting new NTSC television receivers¹ would be the earliest that is politically feasible. The July 1, 2006 date in the House Energy & Commerce Committee draft legislation would seem to have significant political support, and would therefore be the proper choice. Under no circumstances should the deadline be later than October 1, 2006, so that holiday TV sales would be limited to digital sets.

In setting this date, the **overriding** public policy goal should be minimizing the number of new NTSC-only television sets purchased by American consumers.

Tacitly accepting the underlying premise that a certain number² of television sets must be supplied to the U.S. market every year would unduly restrict your policy choices. The Consumer Electronics Association (“CEA”) has sought to reinforce this premise by claiming that “accelerating this schedule [for small TV DTV reception compliance] from its original July 1, 2007, date will be extremely difficult for manufacturers to meet.”³

Such statements are red herrings. The industry is not being required to retrofit all existing NTSC sets with ATSC tuners by a certain date. They will not be required to produce any particular quantity of new ATSC sets in a given time frame. The proposed regulation would merely prohibit after a certain date the importation and shipment in interstate commerce of television receivers not having DTV reception capability. Why would this be extremely difficult for manufacturers to meet?

¹ My definition of an NTSC receiver is one that can receive and display NTSC but not ATSC broadcasts.

² Projected un-disrupted market based on continued sales of NTSC sets

³ CEA Press Release (dated 6/9/05) “CEA COMMENDS FCC FOR ACCELERATING 100 PERCENT DTV TUNER REQUIREMENT” (“CEA 6/9/05 Release”)

The CEA goes on: “If implemented [advancing the 7/1/07 date to 2006], such a requirement would likely cause a jump in prices, thereby reducing the retail market for these sets.”⁴ In other words, they would sell fewer TVs if they couldn’t continue selling NTSC sets. This is the situation they are understandably seeking to avoid—a disruption in the status quo.

It may be true that fewer television sets would be sold, but *every one of those TVs they couldn’t sell would be an NTSC set*. For the American consumer, that would be a good thing.

We are at a stage in this very unique transition when maintaining the status quo is simply not appropriate.

- **Consumer choice**

People would not buy NTSC sets if they knew that the end of the transition is coming. If that information is kept from them, they would be unable to make a legitimate choice between NTSC and ATSC. Under those circumstances, and until consumers are properly informed about the transition to the ATSC television standard, the Commission is obligated to protect the American public’s best interests as its top priority. That means putting yourself in the consumer’s shoes. Would you go out a year from now and buy a traditional 21” NTSC TV? Six months from now? Today?

- **Retailer support**

CEA and the Consumer Electronics Retailers Coalition (“CERC”) have established a record in this docket that explains their marketing policies. In their petition⁵, they say that when the consumer is presented with an ATSC set and a less expensive NTSC set that many or most consumers may view as identically satisfying their needs, consumers typically will choose the lower-

⁴ Id.

⁵ Petition for Rulemaking filed by the CEA and the CERC on November 5, 2004 (ET Docket 05-24)

priced NTSC product. Therefore, in that market environment, the retailer will choose to stock the NTSC set in preference to the ATSC set having similar features.

The same basic retail situation for TV sets smaller than 25" can be expected. The difference is that there was a 50% requirement for larger sets in advance of the 100% requirement, so manufacturers had a legal obligation to get an earlier start producing substantial numbers of those larger ATSC sets. For TVs smaller than 25", there will be no such incentive, and no reason to expect that retailers will reverse their established policy favoring cheaper NTSC sets.

In the meantime, what you see is what you get. And today, that's nothing. Nothing that I could find. At any price. No widescreen ATSC televisions smaller than 25", any resolution. I looked at my local Sears, Circuit City, and Best Buy, and at my favorite on-line retailers. Nothing.

Consumers will not be able to look at two similar products, one NTSC and one ATSC, and decide if the cheaper one identically satisfies their needs. They will not have that choice.

This situation will persist until either a legal mandate comes into effect or the American public is informed of the impending NTSC shutdown (and demands small ATSC sets). Given the industry's adamant opposition to labeling, and the Commission's unwillingness to require it, the latter alternative will not happen anytime soon.

The earlier the FCC requires DTV reception capability in sets smaller than 25", the sooner small ATSC TVs will become generally available to all consumers.

- **Inventory effect**

As the Commission knows, the specific date it sets for the small-TV DTV reception requirement will not mark a sharp transition from all-NTSC sets one

day to all-ATSC sets the next. There will likely be a decline in numbers of NTSC sets in favor of ATSC sets on one side or other of the cut-off date.

The question is: which side? The industry argues that it will be in advance of the date (in this mid-size set scenario):

“CEA states that there is necessarily a substantial lead-in period during which manufacturers will be increasing the number of mid-size receivers that include DTV tuners. It states that with an accelerated 100 percent date of March 1, 2006, this lead-in period naturally would include the holiday season about which broadcasters are concerned. In its reply comments, TTE similarly states that acceleration of the 100 percent requirement to March 1, 2006 will have a positive effect on January and February sales of sets equipped with DTV tuners, including the Super Bowl period as well as March, including “March Madness,” because retailers will decrease their inventories of analog sets throughout the first quarter of 2006 in anticipation of the 100-percent requirement taking effect.”⁶

Based on experience with sets 36” and larger, it seems more likely that the phase-out of NTSC sets will not begin until *after* the deadline has passed.

By my reading, the regulations prohibit importation and interstate commerce of prohibited sets as of the effective date. Any in-state stock of NTSC sets may be sold until depleted. Given their stated preference for stocking the cheaper NTSC alternative (which they would like to sell until July 2007), consumer electronics retailers could be expected to build up inventory of NTSC products while they had the opportunity. I am not alone in this belief.

“In their reply comments, MSTV/NAB further express concern that if the 50 percent requirement is eliminated, retailers will increase their orders for analog-only mid-size TV sets to have inventory for sale even after the deadline for 100 percent of such sets to have a DTV tuner.”⁷

⁶ *In the Matter of Requirements for Digital Television Receiving Capability, Report and Order*, ET Docket 05-24, (Rel. June 9, 2005) (“FCC R&O”) at ¶ 14.

⁷ FCC R&O at ¶ 9.

Indeed, when I visited my local Sears, Circuit City, and Best Buy stores on June 11, only three weeks before the July 1 deadline for having ATSC tuners in all sets 36" and larger, I was not surprised to find that NTSC sets dominated display models in that size range (and that's with a 50% requirement in effect!).

At the Sears store, 17 models 36" and larger were on display (by my count). Of those, 5 had integral digital tuners, and 12 were NTSC-only sets (about 70% NTSC). While the number of display models may not reflect the number of each type sold, it is likely that the ratio will be close. With limited shelf space, a retailer will not favor models that do not sell well.

I did not take a specific count on my walk-throughs of Circuit City's and Best Buy's television departments, but Circuit City's ratio of NTSC to ATSC sets appeared to be similar to that at Sears. Best Buy's ratio appeared to be more balanced, with NTSC sets still in the majority.

But with a 50% requirement in effect, and with the industry alleging that inventories of analog-only sets would be drawn down during the months leading up to a deadline, one might expect to see many more ATSC models. Nevertheless, the NTSC-only products, which were to have been made "artificially scarce" because of the ironies in the 50% requirement, were there in abundance. Go figure.

Because we can therefore expect to see a lag after the deadline for ATSC tuners in small TVs, the specific date should be set in advance of when ATSC sets need to fill store shelves. It is for this reason that I have suggested October 1, 2006 (as a less desirable alternative to July 1) in lieu of November 1, which is about when visions of holiday giving start dancing in shoppers' heads.

- **Pricing**

- 1) Timing's impact on prices

Whether the digital tuner requirement deadline is July 1, 2006, or July 1, 2007, or some date in-between, it is not going to have a substantial

impact on what prices will be at the end of the transition. Prices for small ATSC sets will certainly be higher than what 4:3 NTSC sets cost, but moving the requirement's effective date six months one way or the other will not change that.

If anything, prices for small ATSC sets would be lower on December 31, 2008 if the NTSC prohibition starts July 1, 2006, than if the existing July 1, 2007 date is retained. ATSC prices would have that much more time to drop before analog broadcasts are shut off.

Even if the deadline for phasing out small NTSC sets is July 1, 2006, achieving economies of scale for the integrated 8-VSB/QAM chips would already be far along, since the 100% phase-ins of large and mid-size ATSC sets would have been completed, respectively, twelve and four months before then.

If the end of the transition was ten years away, there might not be any harm in accommodating the industry's desire for a more relaxed schedule. But the end is too near, and giving consumers an *additional* six, or better—twelve months in which to start buying small ATSC television sets would be a huge benefit.

2) Price elasticity

Contrary to some industry predictions, higher television prices resulting from the switch to the ATSC standard will not wipe out a whole size-range. The price of televisions is now low enough from a historical perspective (with respect to the cost of living), to be relatively price inelastic. The price can go up, and people will still have no trouble affording them, and *will* buy them.

One only has to look at sales of the larger ATSC sets. Even at the higher prices that prevailed a year or two ago, ordinary people were buying them in large numbers. Economies of scale and competition between rival digital technologies are now driving what could properly be called price wars.

And yet CEA has described potentially dire consequences of dramatic price increases if the deadline is advanced even six months from the existing mid-2007 date:

“Pushing up the tuner deadline for 13 to 24 inch sets to 2006 would . . . double the price of a typical 13 inch television to consumers. If the product is rejected by lower income and other consumers because the price exceeds their budget, it will not be carried by retailers and, eventually, not produced by manufacturers.”⁸

On my June 11 foray to several TV retailers, I found 13” NTSC sets priced as low as \$60. Most cost between \$65 and \$85 (a Toshiba), so a “typical” 13” NTSC set would cost about \$75.

I would expect an ATSC replacement to be standard definition, but with a 16:9 aspect ratio screen, and of course a digital tuner/demodulator/decoder (“tuner”) in the main processor chip (giving perfect reception with a small antenna in most urban areas). If a couple of years from now that set sells for \$150—double the price of current typical 13” sets, it would undoubtedly do very well. 13” color TVs cost a lot more than that 20 or 30 years ago.

Besides the lower-priced sets, I also found a 13” Sony that looked pretty much like all the others, but priced at \$160. That’s more than double the cost of the typical 13” NTSC set, and yet that model is still carried by retailers. I also found a 13” 4:3 LCD NTSC set, priced at \$350, almost five times the cost of a typical 13” set.

Manufacturers undoubtedly will stop making \$60 - \$80 TVs for a number of years, but they will certainly continue to build affordable 13” television sets.

The larger demand for sets smaller than 25” is not going away. People will continue to have a need for small sets, irrespective of price. If there is a demand, someone will supply it.

⁸ CEA 6/9/05 Release

3) Price vs. value

The real issue is value for money, which is a universal concern for all consumers, whether they're low-income or wealthy or in-between. Value for money favors the earliest possible date for an end to NTSC-only sets.

Television is an integral part of American culture; it's not considered to be a luxury. It's an ordinary appliance, like a refrigerator. There will always be a broad price range, but the smart consumer doesn't want to pay more than the product is worth, no matter what the price.

The value-for-money issue surrounding digital tuners in large TVs was whether the ATSC tuner alone was worth the extra cost. 8-VSB tuner technology was immature when the market for larger sets shifted to high-definition widescreen units; the cost of the digital tuner was high at that time and its performance did not meet consumer expectations (along with meager HD programming options and low-power digital broadcasts).

In those circumstances, the added value of the ATSC tuner was, in many instances, perceived to be less than the added price. Large "HD-Ready" sets became established and accepted; they were largely bought as DVD displays.

Today, for sets smaller than 25", the environment is very different. The market for these sets is still dominated by traditional 4:3 standard-definition CRT televisions; nobody is going to "add" a digital tuner to these sets. Those models will not be "modified"; they simply will no longer be made.

Integrated digital TV processors that incorporate advanced 8-VSB/QAM/NTSC reception capability are now widely available in large quantities. With the impending requirement for integrated digital tuners and the end of the transition to the ATSC standard in sight, television sets in this size range will move directly from old-school 4:3 analog to modern ATSC units.

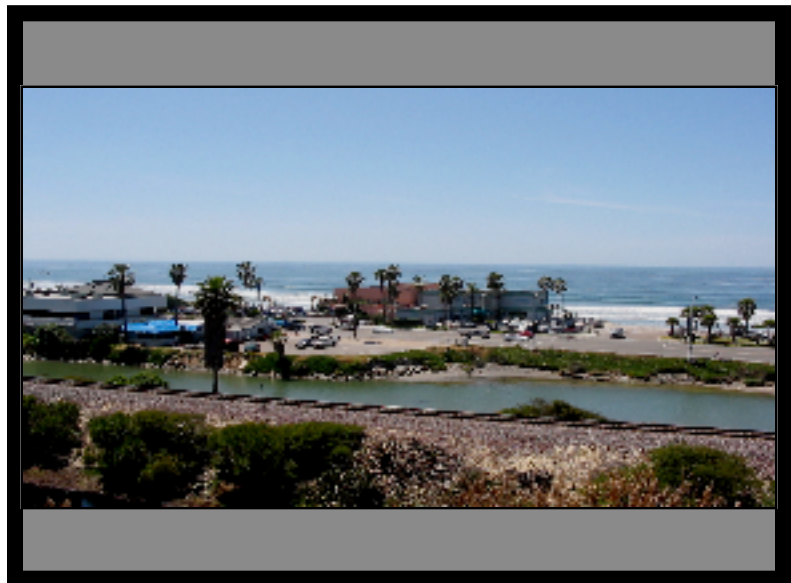
Similarly, developing and manufacturing an intermediate generation of small, widescreen, progressive-scan CRT sets with only NTSC tuners would

make absolutely no sense. The full transition will happen for these small CRT sets when, and only when, the FCC mandates 8-VSB digital tuners; everything else, including QAM tuners, will be part of the package.

The side-by-side differences between old 4:3 sets and widescreen integrated digital TVs would be stark. And the extra value inherent in all the new features combined will easily justify the higher price, especially since the functionality of the old NTSC sets will be impaired in an ATSC world.

Since the small-set digital tuner requirement goes right to 100%, the competitive playing field will be level. All sets will have integral ATSC tuners. I expect that retailers will be comparing the new 8-VSB/QAM-equipped TVs with the analog sets that the consumer has at home, and by then will finally be reminding the consumer about the looming cut-off of analog broadcasts.

Of course the most noticeable change will be the 16:9 display. This will add substantial value to the product because the not-so-new widescreen programming that is becoming the norm *will fill the whole screen*. With an old-style 4:3 analog set, fully a quarter of the screen area will be lost (something small sets cannot afford). This affects *both* OTA and cable viewers.



4:3 TV displaying widescreen programming.
Image fills 75% of screen.

An early requirement (i.e. July 1, 2006) for ATSC tuners would have

the substantial added benefit of quickly converting all remaining 4:3 sets in stores to the very obvious 16:9 format. This high-visibility change would likely have the biggest positive impact on the transition, generating excitement and inducing people to buy ATSC sets. Cable customers would benefit equally.

The later the digital tuner requirement goes into effect, the more small 4:3 NTSC televisions people will have bought, which means more people will be upset when they discover that their screens do not match the aspect ratio of post-transition programming.

This will be especially true if older 4:3 reruns are reformatted (by adding side-bars) for digital broadcast to 16:9 TVs (process similar to non-anamorphic DVDs). Alternatively, if reruns are broadcast as 4:3 programs and the bars are added by the widescreen sets' own processors, there may be no problem for the NTSC 4:3 sets. If the former is the case,

however, the actual image will fill only a little more than half the screen area. ATSC has developed standards to mitigate this sort of problem, but those standards will be ineffective if TV stations do not fully and correctly implement them. (See generally ATSC Doc. A/54A (12/4/03) §5.5)

Inexpensive digital-to-analog converter boxes will likely not have a picture "zoom" feature that could mitigate such a problem, but if they did, the



4:3 TV displaying 4:3 programming that has been formatted for a 16:9 display.

Image area fills only 56% of screen.

already marginal NTSC line resolution would be further degraded. The same may also be the case with inexpensive D/A cable boxes.

Because NTSC television sets smaller than 25" are *small*, and cheap, they would not be ideal candidates for adaptation to digital reception via either an external digital tuner or a similar D/A converter box.

People buy small sets for applications where space is limited, or portability is a priority. Having to live with the added bulk and complication of a set-top box would be a much more important negative factor than with larger sets.

Smaller TVs are more likely than larger ones to receive their programming via over-the-air broadcasts (versus cable or satellite), either because they are moved around, or are used in kitchens, dorm rooms, or by people who elect not to spend a lot of money on television (low priority activity).

Price is not likely a primary criterion for choosing a small set when you can buy a decent 27" TV for \$220. But because small NTSC sets are so cheap, having to add a set-top box that may cost 50% to 100% of the price of the TV itself, just to keep it working (with reduced functionality), would make the conversion option very unattractive.

Unfortunately, that means a lot of small, relatively new NTSC sets are going to be trashed. Value for money will therefore be low compared to a higher-priced digital set. The earliest possible date for eliminating NTSC-only television sets from the marketplace will minimize this waste, as well as minimizing the need for converter boxes.

Setting the effective date for digital reception capability in all new television sets at July 1, 2006 would give synergy to the transition; July 1, 2006 is also the date for all broadcast stations to maximize and replicate their

digital signals. Such a turning point would be a newsworthy milestone second only to the final NTSC shutdown. Both OTA and cable consumers buying small digital sets after that date would more than ever before be able to switch completely to digital. Value for money would be high.

4) Low-income consumers

In no case will low-income households be shut out of the TV market by a requirement that prohibits the sale of new NTSC sets.

“CEA cautioned that this proposed new 2006 tuner mandate would sharply raise prices on smaller sets, harming low-income consumers.”⁹

On the contrary, they will be harmed by delaying the effective date if as a consequence they are induced to purchase an NTSC 4:3 set that is incompatible with the U.S. digital television standard.

While D/A converter boxes may be free to low-income households, obtaining them would likely be a difficult and time-consuming process. In the McCain Digital Television Transition bill (S.1237), a low-income claimant would have to submit an application to the FCC, proving that his or her TV programming comes exclusively from over-the-air broadcasts and that household income is no greater than twice poverty level. After waiting for approval, the claimant would have to find a distributor of the boxes, complete more paperwork, and then take the box home. After that, hope that the instructions are clear and that plug-and-play works.

The process is likely to be so daunting that many or even most eligible people would be put off, assuming that they hear about and understand the program in the first place.

If they do manage to complete the process and connect the converter

⁹ CEA 6/9/05 Release

box, they will still have a small analog television set that now displays a picture with only 360 lines of resolution at best (with widescreen programming) on only 75% of the screen area. For a 13" NTSC set, that translates to an image height of only 5.85". This is the industry's prescription for low-income consumers?

Low-income households should be equally entitled to the substantial technological benefits of digital/HD television. They will be denied these benefits if they expend their limited resources on a new NTSC television, now and far into the future. Television sets last a long time.

Many or most low-income households subscribe to cable or satellite service, which at \$50/month can cost \$9000 over the life of a television set. Even at \$15/month, the cost of cable service would be \$2700. \$150-\$300 for a small to mid-size ATSC set would be small compared to other types of necessary and discretionary expenses incurred by low-income consumers.

If a low-income consumer's ability to afford an ATSC television is called into question, then they most certainly will not be able to afford cable or satellite service, and must by necessity rely exclusively on free over-the-air digital programming.

The sooner the flow of NTSC-only televisions is stopped, the sooner digital TV prices will start to decline, and the less low-income consumers will have to pay for an ATSC television during the months before analog shutdown.

In the meantime, low-income consumers can continue using their current analog sets for another three years. If those sets stop working before then, they will easily be able to find a better replacement. Tens of millions of new digital sets will be sold in the run-up to the end of the transition, replacing tens of millions of relatively new analog sets. Millions of those NTSC sets will be offered at yard-sale prices, or taken to recycling centers where they can be had for free.

- **Monitors?**

The consumer electronics industry has raised the specter of the monitor boogeyman in their arguments to delay a requirement for DTV reception capability in small sets. It's called the "tunerless" alternative.

This scenario was presented at the May 26 Congressional DTV transition hearing (emphasis added):

*"An accelerated tuner mandate could force some manufacturers who determine that meeting the new regulations is not feasible . . . to move to tunerless sets or to stop manufacturing altogether the TV models which cannot be fitted with digital tuners—which many manufacturers are reluctant to do and which would defeat the purpose of the tuner mandate itself."*¹⁰

And again in response to the Commission's *Further NPRM* (emphasis added):

*"The unfortunate result of accelerating the tuner mandate deadlines would be to decrease the number of DTV tuners in the marketplace, which clearly does not serve the transition. By contrast, the current and anticipated July 2007 date allows time for economies of scale to fully develop. This will lessen the "sticker shock" for consumers, allowing these products a chance to compete against less expensive, tuner-less alternatives."*¹¹

I believe that a "tunerless" set is more properly called a "monitor," and it would be a *true* monitor. The term "monitor," as coined of late by the consumer electronics industry, is a misnomer used to mean an HD-capable set that has a built-in NTSC tuner that is only capable of receiving and displaying a 480i broadcast signal. I'm guessing that this erroneous use of the term "monitor" is why they're now calling this new alternative a "tunerless" set.

¹⁰ Written statement of Gary Shapiro, CEA, before the House Committee on Energy and Commerce (May 26, 2005) at 13.

¹¹ CEA 6/9/05 Release

A true monitor would not include any tuners: analog, digital, or cable. It would have no channel selection controls. It would therefore *on its face* put any consumer on notice that it could not function as a receiver. For that reason, I would have no problem if the industry elected to manufacture and sell monitors (or, as they say, “tunerless” sets).

The lack of channel selection controls is key. When there are channel selection controls (up/down buttons and/or a numeric keypad) on the TV or the remote control, the consumer assumes that the TV can tune/receive all over-the-air broadcast channels. If you asked a typical consumer to explain the difference between NTSC, 8-VSB, and QAM tuners/demodulators, you’d likely get a blank stare.

My own “television” is a monitor—a 27” Sony KX-M270, purchased in 1986 and still performing flawlessly. It has a power button on the front (and five small picture controls hidden behind a panel), and a single composite video jack on the back, and that’s it. When people see it for the first time, they are confused: “How does it work?”

That could explain why monitors never caught on in the consumer market, and why you won’t see them in your local Best Buy. If consumers would buy less-expensive widescreen monitors in preference to “tunered” sets, the industry would be selling them now. Consumers have always had television sets with tuners built-in; they are familiar and comfortable with that; they expect channel selection controls, even if they get their programming via cable or satellite.

Presumably, according to the quotes above (excuse me, *supra*), if the FCC accelerates the DTV tuner deadline, the industry might react by producing “tunerless” sets in lieu of ATSC sets, thereby decreasing the number of models with digital tuners available to consumers. But wait! There’s more!

“Manufacturers relied on the original FCC mandate in their product planning, and need a minimum of 18 to 24 months to plan, develop and

deploy new equipment.”¹²

I would guess that also applies to new monitors. If the industry is going to introduce monitors in time to preempt any early DTV tuner deadline the FCC sets, it probably means those monitors would have to already be in the design/production pipeline. The decision to go ahead with monitors would have been made in advance of the Commission’s upcoming decision on digital tuners. If they haven’t started yet, I guess we’ll have to wait 18 to 24 months to see them (Out in time for the 2007 CES? Maybe. Maybe not.).

On the other hand, the industry has known about the digital transition for many years (and Congressional calls for an early end to NTSC-only TVs), and my guess is that planning and design work for small ATSC sets is well underway. Would they be sitting on their hands, waiting for a final answer?

The consumer electronics industry is a group of highly competitive companies, not a monolithic association. It’s not realistic to assume that all of them are going to boycott the huge coming demand for small ATSC television sets. If one or more of them elect not to produce small digital TV sets, I’m sure the others will be cheering them on—all the way to the bank.

With that in mind, it should be noted that Samsung has been selling 26” widescreen CRT sets with integrated digital tuners for some time, and Toshiba has introduced a 27” widescreen LCD ATSC set. Several widescreen LCD analog-only models 17”, 20”, and 23” are on the market. We’re close to the under-25” ATSC set now, with still a year to go before July 1, 2006.

Monitors? While I doubt there is a significant market for monitors smaller than 25”, I think the availability of monitors would increase the choices available to consumers. That would be a good thing.

¹² CEA 6/9/05 Release

II. Smaller than 13”?

Television sets smaller than 13” are rare birds. The Commission noted correctly that “if such devices are to provide off-the-air reception of TV signals after the transition, they too must be able to receive DTV signals and that it is less likely that such products, and particularly handheld and similar portable devices, would be used with a separate device for receiving DTV signals.”¹³

On my little June 11 shopping trip, I found no sets smaller than 13” at either Sears or Circuit City, although Circuit City had a 7.8” Audiovox TV/DVD player for \$250. Best Buy had several sets under 13”: a Sansui 9” TV/DVD combination for \$160, an AC/DC RCA 9” set for \$177, an AC-only 9” RCA for \$167, and a 5” black-and-white AC/DC set for \$33.

Most of these were substantively more expensive than the typical 13” sets, and most embodied old technology.

When the transition to digital television becomes widely understood, I believe the already tiny demand for these conventional TV sets will disappear, and a profoundly different product will take their place. Tiny sets are meant to be portable, many capable of battery operation, and CRTs gobble power. Pricier LCDs will likely take over.

The technology for TV service to the next generation of small portable video display devices seems to be developing apart from NTSC in any case—future 3G cell phones, video iPods, Blackberries, etc, and much of it will likely be subscription or VOD service, not free.

I can’t discern any reason to treat under-13” sets any differently than the rest of TVs smaller than 25”. The added price for including a digital tuner in a small specialized video device would not likely be a showstopper, considering the prevailing prices for other small electronic devices (eg. iPods). Between now and the end of the transition, if someone has a special need for a 9” NTSC set,

¹³ FCC R&O at ¶ 22.

there's always eBay.

III. Alternative Approaches — Eyes Wide Open

The Commission has asked for “suggestions for alternative approaches for including DTV reception capability in all TV receiving devices on a schedule.” I will use this opportunity to again suggest incentives for voluntary consumer adoption of ATSC televisions. The first, as always, is direct, unambiguous information about the end of the transition. The Commission seems to know this.

“We also believe that it would further consumer awareness if manufacturers and retailers would provide point-of-sale and other marketing information to consumers and/or clearly label new television sets to indicate whether they can receive off-the-air DTV signals or only off-the-air analog signals. We believe that such efforts would result in more informed consumer choices about whether to buy DTV tuner equipped sets. We therefore encourage manufacturers and retailers to clearly label and identify the tuning capabilities of new TV sets and/or employ other means to disseminate to consumers information regarding whether or not specific models are able to receive off-the-air digital television signals.”¹⁴

It's a good thought, but it's also unrealistic to expect the consumer electronics industry (or broadcasters) to voluntarily take action that is in opposition to their own perceived best interests. Effective and timely notice of the impending shut-off of NTSC broadcasts will have to come from the government itself, either directly or as a mandate to the industry. Unfortunately, those prospects do not look good.

• Labeling

“We note that the issue of whether to require manufacturers and retailers to label television equipment (including analog-only sets) concerning digital capabilities or limitations *remains pending* in the

¹⁴ Id. at ¶ 19.

Second DTV Periodic Review. . .”¹⁵ (emphasis added)

Time is of the essence. If nothing is done, perhaps another 20 million or more new NTSC sets will be purchased before they have been regulated out of the marketplace (hopefully by July 1, 2006). In the meantime, unless a *Second DTV Periodic Review R&O* with a labeling NPRM is imminent, I suggest that a separate fast-track labeling rulemaking be initiated.

Members of Congress have also expressed the need for more public education, and labeling of NTSC sets in particular. The House staff draft transition legislation included a labeling requirement, and Senator Stevens has volunteered that the Senate version would likely also include such a provision.¹⁶

The digital TV transition legislation is not expected to become law before the end of the year, and the industry has already claimed¹⁷ that it would need up to 180 days notice *after* a hard cut-off date is adopted before it could comply with a labeling requirement. If that constraint is accepted, it would be mid-2006 before labels would show up. That’s when the House draft legislation calls for an end to all new NTSC televisions, so the whole labeling requirement would then be moot. Which perhaps is the point of all the foot-dragging.

I have already suggested specific language for a label.¹⁸ Such language must contain enough information to permit the consumer to make a fully informed decision before purchase, and must alert the consumer to the downsides of buying an NTSC set. Otherwise, the message will not register.

This is a WARNING label! Any promotional or marketing language

¹⁵ Id. at footnote 26.

¹⁶ Sen. Stevens June 6, 2005 remarks before the Federal Communications Bar Association

¹⁷ May 26 oral testimony before the House Energy and Commerce Committee; written testimony says “minimum 120 days.”

¹⁸ My comments to mid-size DTV tuner mandate NPRM.

attached to it would only dilute and obscure the message. The whole point of a mandatory label is to provide important consumer information that the manufacturer and retailer would not otherwise include. They can be counted on to tell the consumer about all the product's good points on their own—no regulation needed.

The text should be clear and complete. The CEA's notion that a label must be "concise" (meaning "short") or consumers will not read or understand it¹⁹ is an insult to consumers everywhere. The CEA's recommended language is too abbreviated in important content to be useful, but adds a comprehensive list of ways an NTSC set can continue to be used,²⁰ without explaining the inherent drawbacks for using NTSC technology in those applications.

The label itself must be placed where it draws attention to itself, consistent with its importance. That place is directly on the screen, and not "on the outside of the product packaging and on or near the television itself . . . as long as it is attached to the product as shipped."²¹ The mandatory warning label should be the ONLY label on the screen.

The CEA has expressed concern that placing a label on the screen itself could damage the screen.²² Modern developments in transparent low-tack cling-film labels preclude damage on removal; no adhesive residue remains. This type of label is commonly used on all kinds of sensitive clear plastic and glass surfaces on consumer electronics, computers and appliances (in fact, such plastic film is frequently used to *protect* sensitive surfaces during shipping and display). If the label is placed anywhere else other than on the screen, it will be ineffective.

¹⁹ Written statement of Gary Shapiro, CEA, before the House Committee on Energy and Commerce (May 26, 2005) at 15.

²⁰ Id. "(It should continue to work as before with cable and satellite TV systems, gaming consoles, VCRs, DVD players, and similar products.)"

²¹ Id.

²² Id.

- **Direct mail**

This idea is not as difficult as it may seem. It *would* be effective. If the Publisher's Clearinghouse people can send out those fat packages to half the world, can't the U.S. government afford to send out a single folded sheet of paper describing details of the transition to every residential "Postal Patron" in the country? (specific addresses not required)

Either: 1) Congress quickly appropriates a modest sum for the FCC to send out the flyers, or 2) Congress makes use of its franking privileges to do it itself. (I'm not holding my breath on this one.)

- **Other incentives**

- 1) Analog degradation and voluntary shut-offs

The DTV transition rules for satellite broadcast stations are somewhat different than for stand-alone stations.²³ Satellite stations are allowed to surrender one of their paired channels and flash cut from analog to digital transmission *by the end* of the transition period. Also, "Satellite stations with an out-of-core analog channel and an in-core digital channel may retain their out-of-core channel for continued analog service until the end of the transition or *until they decide to build and transmit only in digital, whichever is earlier.*" (emphasis added)

That means satellite stations can decide to shut off their analog broadcasts *before* the statutory end-date. Satellite station broadcasts look exactly the same to consumers as stand-alone station broadcasts.

If a satellite station is allowed to voluntarily terminate its analog service, then why not a stand-alone station? (I understand this has been okayed for a few non-commercial stations already.)

Obviously, if a station shuts down its analog broadcast, that's going to

²³ See *Second Periodic Review R&O* (Docket 03-15), at ¶¶ 102-103.

be an incentive for that station's viewers to switch to digital.

If that sounds too drastic, then consider a milder alternative: after a broadcast station has gone to full digital signal strength, allow²⁴ that station to *reduce* its analog signal strength (either by reducing power—saves money—or moving its antenna—perhaps a swap with the digital antenna's location—or a little of both).

Because analog picture quality degrades gracefully as signal strength is reduced, you wouldn't be cutting viewers off from their analog programming, just making the picture a little fuzzier (maybe not even that). But assuming it was a little fuzzier, and viewers knew it was part of the transition to digital, they would have more incentive to convert to digital than otherwise. (While they still had the luxury of options and time to plan — that's what *transitions* are for!)

This strategy could help ease the pain of the transition, and make the process leading to December 31, 2008 more gradual. It would also have the side benefit of reducing stations' electricity bills and would hold some potential for reducing interference between adjacent stations' transmissions.

2) Aspect ratio incentive

Most analog TV viewers are unaware of how much programming is being broadcast in a high-definition widescreen format over digital channels because that programming is being reformatted to 4:3 for broadcast over the analog channels.

If all programming that is produced in a widescreen format for digital TV is also broadcast in that format (letterboxed) for analog as well, it would alert viewers to the fact that *something* was going on.

They would probably complain about the black bars, but that would be

²⁴ Or *require* the signal strength reduction, for example, if there is less than six or twelve months remaining before the statutory analog shutoff date.

the whole point. A public service announcement by broadcasters (now that they've got the viewer's attention) could explain that the United States is moving to a new digital TV standard, and as part of that transition, the programs they are watching letterboxed on their old analog sets have been produced in widescreen format to match the screens of the new digital TVs.

Every letterboxed prime-time show would be another little nag to go out and buy an ATSC set.

Of course mandating this wouldn't work, but the Chairman could *encourage* broadcasters to consider it. Producers and directors should like the idea, because they would then have the freedom to use the whole 16:9 frame (not having to protect for 4:3).

3) Human nature & consumer education

- Surveys — If you are doing a telephone poll and you ask, “Are you familiar with the transition to digital TV?” and get a 60% positive response rate, then you are almost certainly getting massive false positives.

Unless the respondent at that point is asked pointedly to explain the transition to digital television, there is no way of knowing *which* digital TV transition he is familiar with.

The most well known, of course, is cable TV's digital transition. Since a majority of TV households subscribe to cable service (many may never have known anything else), and the cable industry has heavily marketed their new digital service, this is what the survey participant has likely heard about.

- Perception — Any educational message about the transition to digital TV should allow no room for subtlety. If you want consumers to get the message, tell them the same thing three different ways.

People tend to interpret or filter what they hear in a manner that conforms with their expectations. Television has been a constant in everyone's lives; it is part of the American cultural identity. The expectation is that their television sets will continue to function as they always have.

If you told someone that next year cell phones will replace wireline telephones in American homes, they would not understand you to mean that their own wireline telephones will no longer work. They will interpret your statement to mean that cell phones' popularity will rise to dominance.

It's the same thing with the digital TV transition, but while most people have a clear understanding of the distinct difference between cell phone and wireline service, they do not see such a clear distinction between analog and digital television. For most people, it's the same system.

So when you tell people that digital TV is going to replace analog TV at the end of 2008, unless your message is very clear and very specific, people will interpret what you are saying to mean that the popular digital TV sets will dominate over traditional analog sets by then.

They will not interpret the message to mean that the NTSC set they are about to buy (and the two they have at home) will no longer work at the end of 2008. They won't believe it.

If you persist, they will likely point to the rows of 4:3 NTSC sets at the store as evidence that you are mistaken. "They certainly wouldn't be selling these if they're not going to work in a couple of years! And where are all the digital sets?!"

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